

CALIFORNIA DEPARTMENT OF FISH AND GAME

**Take Report for Anadromous Fish Research and Monitoring Activities
Authorized Under the Endangered Species Act Section 4(d) Rule Research Limit
for the period January 1, 2007 to December 31, 2007**

Note: All items marked with an asterisk () are REQUIRED*

1 * Project Number: Project Title:

82	2007 Feather River Hatchery Spring-run Chinook Fish Ladder Investigations
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2 * Principal Investigator (PI) or Contact Person:

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Co-PI or Second Contact Person:

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3 * Research timeframe:

Note: for 4(d) authorization, the start date and end date must be within the same calendar year.

Start Date: Approx. month, day 2007

End Date: Approx. month, day 2007

4 * Please place an "X" in the box next to EACH statement in this section that applies to your project.

<input checked="" type="checkbox"/>	This research or monitoring project is ongoing .
<input type="checkbox"/>	The project was not implemented during Calendar Year 2007.
<input type="checkbox"/>	A Section 10 Permit was obtained for this project during 2007.
<input type="checkbox"/>	Please enter your project's Section 10 Permit Number here ▶▶▶▶▶ <input type="text"/>

Use **this form** to report your project's **take activity** under this 4(d) authorization only

5 * Time of year and frequency of sampling: (e.g., January through June; 3 days per week)

April through June 2007; 2 days a week
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6 * Indicate river basin(s) sampled, and approximate latitude and longitude of sampling sites:

Specify Level 4 USGS Hydrologic Unit Codes (HUCs) if known; also see attachment named "Listed ESUs/DPSs, By Location" for general areas.

Feather River Basin; Feather River Hatchery: 39.3.118N, 121.32.42W.

7 * Briefly describe the techniques and methods used during research and monitoring activities:

Spring run Chinook enter the Feather River Fish Hatchery through the fish ladder. Fish are brought into the hatchery building and lightly anesthetized following standard hatchery protocol. Each fish is marked with a sequentially numbered Hallprint dart tag on either side of the dorsal fin. Once marked, fish are released into the river via the river return channel. The river re-entry point is monitored twice daily to ensure all released fish recover as expected.

8 * Actual Take Numbers:

Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." This does not include snorkel surveys or other strictly observational surveys, but does include dead fish that are handled, sampled, or retained.¹

Species	ESU/DPS	Adult Carcasses /1	Adult				Juvenile			
			Non-lethal	Lethal		Percent Unintentional Mortality /4	Non-lethal	Lethal		Percent Unintentional Mortality /4
				Intentional /2	Unintentional /3			Intentional /2	Unintentional /3	
coho salmon	Southern Oregon/Northern	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
Chinook salmon	Central Valley spring-run	0	9688	0	67	0.7	0	0	0	#DIV/0!
	California Coastal	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
steelhead	Northern California	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Central California Coast	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	South-Central California Coast	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	California Central Valley	0	0	0	0	#DIV/0!	0	0	0	#DIV/0!
green sturgeon /5	Southern DPS		0		0		0		0	

1. Example: carcasses handled/marked/sampled during carcass surveys.

2. Example: killing steelhead to obtain otoliths or other tissue.

3. Fish that are killed unintentionally during monitoring or research activity. Example: fish inadvertently killed as a result of electrofishing.

4. Number of lethal unintentional take divided by (nonlethal take + lethal unintentional take) x 100; calculated automatically.

5. Estimate the number of Southern DPS green sturgeon that were encountered during salmonid research projects ONLY. Although no 4(d) Rule has been established for the direct take of Southern DPS green sturgeon, this information is needed to assess the effects associated with salmonid research upon this fish.

9 * Please provide a summary of major findings (preliminary findings are sufficient if project is still ongoing).

Please also indicate whether the data you have collected will be archived, and if so, the location of the archive.

Between May 3 and July 9, 2007, 9,756 "Spring-run" Chinook salmon were marked with individually numbered Hallprint dart tags for identification purposes at the Feather River Fish Hatchery. There were a total of 67 mortalities during the marking period. During the marking period, 1,527 Spring-run were recaptured in the FRH and re-released back to the Feather River. When spawning commenced in the fall, a total of 2,873 fish were recaptured: 1,849 at the FRH, 773 in the river escapement survey and 251 by anglers or recreators. The FRH successfully spawned 1,403 (76%) Spring-run that returned to the hatchery. Forty-eight (71%) of the 99 female salmon recovered in the river escapement survey were classified as spent and are thus assumed to have spawned successfully (20 were unspent, 28 had unknown spawning status so n= 68 for spawning status determination). All Spring-run were spawned (in the FRH) between 9/24 and 10/4 with the majority (85%) spawned by 9/28. The majority of fish recaptured in the river were found in the upper reaches of the low flow channel. Sixty-three percent were found within one mile of the hatchery and only one percent were found in the High Flow Channel. Based on the escape

10 If your project was COMPLETED: please attach a copy of a final, comprehensive report, if available, or indicate below when you anticipate the final report will be completed.

11 * Describe what measures were utilized to minimize adverse effects upon listed salmon and steelhead, and the effectiveness of those measures.

Fish are marked underwater, lightly anesthetized prior to any handling and returned to the river immediately after processing.

- 12 * Describe any problems and/or unforeseen effects (e.g., fish injuries or mortalities) on salmon and steelhead that occurred during the project.

None observed

- 13 * Describe post-handling mortality occurrences (if any) for salmon and steelhead, and indicate how post-handling mortality was estimated.

Following each tagging session, we visually inspect the area around the river return channel for pos-mark mortality. A proportion of marked fish return to the hatchery before marking is completed. These fish are assessed for tagging effects (see above section #8.). Post handling mortality is less than 1%.

- 14 * Live fish counts from observational surveys:

Please report the number of **live** fish observed from snorkel surveys, spawning surveys, or other strictly observational surveys in this section, and indicate **survey method(s)**.

Species	ESU/DPS	Adult	Juvenile	Method(s)
coho salmon	Southern Oregon/Northern California Coasts			
Chinook salmon	Central Valley spring-run			
	California Coastal			
steelhead	Northern California			
	Central California Coast			
	South-Central California Coast			
	California Central Valley			
green sturgeon	Southern DPS /1			

1/ Estimate the number of Southern DPS green sturgeon that were observed during salmonid research projects ONLY.

- 15 Please include any additional findings, results, other information, or comments here.

HELP COLUMN

For clarification or additional help, please contact Sharon Shiba at (916) 324-3613; sshiba@dfg.ca.gov or Jeffrey Jahn at (707) 575-6097; Jeffrey.Jahn@NOAA.GOV.

Please refer to the attached file called **4dProgram2007ProjectsList.pdf** for your 2007 project number and title.

Your contact information is needed in case we should have questions regarding your report. Unless you are the sole researcher on the project, a second contact would be helpful in case we cannot reach you.

If you received your Section 10 Permit **before your 2007 sampling season began**, AND the permit completely replaces your project's 4(d) Authorization, your project is considered **NOT IMPLEMENTED** under the 4(d) Program. If your Section 10 Permit was received during mid-season, your project was partially covered under the 4(d) Program, thus take activity during this period must be reported here.

Please contact Sharon Shiba at (916) 324-3613 or sshiba@dfg.ca.gov if you would like to receive pdf files of HUC/DPS/ESU distribution maps. If there are multiple study sites, you may provide this information by attaching a Word or Excel file.

◀ **Caveat:** This cell will accept a maximum of 32,767 characters; only the first 1,024 characters are visible in this cell and the rest are viewable only from the title bar. **If this space is insufficient**, additional space is provided in Item 15, or you may submit your response as a MS Word document. **The file(s) may either be directly linked as OLEs or included as attachments to the e-mail** accompanying your completed application. If you opt for the latter method, please indicate the filename(s) in the cell in lieu of your response. Please click the worksheet tab "AttachOLEFilesHere" to see instructions re: creating OLE files.

Please indicate numbers of individuals **actually taken during Calendar Year 2007**, by table categories. The **Calendar Year period** was selected by NMFS; **please do not attempt to report take for any other time period.**

If your Section 10 Permit was received during **mid-season** AND the permit completely **replaces** your 4(d) coverage, **please report only the take that occurred while your project was covered under the 4(d) Program.**

Please see Caveat in Item 7 about cell capacity and alternative ways to provide the requested information.

Please see Caveat in Item 7 re: linking OLE files or e-mailing files as an attachment.

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You may use this space to continue responses to previous questions, or to provide additional information or comments. Please indicate the Item number if you use this space to supplement lengthy response(s).